and the sequence skilful. The result is a most original and successful presentation of existing knowledge, making clear the relation of genetics to allied sciences, and illustrated throughout by the happiest examples. It is surprising how much has been included in such a relatively short book, and without the sacrifice of clarity; the description of cell-division in Chapter I is an instance of a most adequate account occupying a remarkably small space.

The Home University Library does not, presumably, set out to furnish volumes for casual or hasty reading; the books are intended for those who do not necessarily have a previous acquaintance with the subject, but who are prepared to reflect seriously upon what is presented, and to make some efforts of comprehension, being prepared, for example, to return several times to a passage until its meaning is mastered. It cannot be denied that some sections of this book will require careful reading on the part of those to whom the subject is new; but the above limits of difficulty are not exceeded, and the book conforms to what appears to be the policy of the series in this respect.

The only criticism, other than trivial, is the small number of illustrations. Perhaps it is ungrateful to stress an omission that limits of expense may have made inevitable, but diagrams would have made a number of passages easier to follow.

On p. 216 the following sentence appears: "The system of intelligence tests which has been elaborated, allows the lower levels to be graded: utterly incapable, though I believe them to be, of assessing the higher mental types." The implied conclusion is, I think, erroneous. A scale such as the Binet is built up on the average performance of children of different ages. A child of 9 with a mental age of 4 is on the border-line of imbecility; a child of 9 with a mental age of 14 is just as surely classified as being of very exceptional ability. As long as the tests are confined to children of, say, 11 or less, the measurement of general intelligence is as efficient at the top as at the bottom of the scale. That there are other mental qualities of great importance in addition to those measured by the tests is perfectly true, but it is true at lower limits as well as at very high ones.

Even those with a weakness for eponyms will find it hard to forgive Mr. Ford for calling hæmophilia "the Hesse disease." Amongst the hundreds of inherited abnormalities there is probably no technical term so well known to the general public, or so well understood, as hæmophilia. Further, the condition was well known, and even its mode of transmission empirically known, long before hæmophilia appeared, presumably as the result of a mutation, amongst some of the children and grandchildren of Queen Victoria. And, finally, if a name had to be selected, why, in this country at least, select that of one particular daughter who happened to be heterozygous.

These are, however, very small points indeed, and it only remains to say that here, in a very inexpensive form, is just the book that many people are waiting for. There must be many readers of this REVIEW who would like to have a short account of genetics brought right up to 1938, and skilfully presented in relation to natural selection, evolution and biology generally. The student of biology, and the professional biologist, will find it an admirable essay on genetics, including the most recent advances, and particularly on genetics as an integral part of the department of natural science to which it belongs. And biologists who are asked by their colleagues in science and medicine where genetics has got to these days, and what contribution it is making, now have an easy answer. They will be able to reply, as I have done: "read Mr. Ford's book."

J. A. FRASER ROBERTS.

Lawrence, W. J. C. *Practical Plant Breeding.* London, 1938. Allen & Unwin. Pp. 155. Price 5s. 6d.

THIS clearly written little book fills a real gap in the literature and, may it be said at once, it fills it well. After a detailed description of the technique of plant crossing, the horticultural reader is made acquainted with the elementary facts of genetics, the terminological difficulties being reduced to an absolute minimum. As befits an introduction like

this, the facts are presented in a considerably simplified manner; on the whole this has been done in a happy fashion, but there are a few statements which might be altered in a second edition. For instance, in the legend of figure 25 we read that "crossing-over . . . gives *random* assortment of the genes in place of linkage" (italics mine); surely "random" is not the right word here. On page 85 we read that in the case of close linkage between two factors the breeder "might have to raise a family of 500-1,000 plants in order to get the one plant required, but once he got it, it would very nearly breed true for the pair of characters concerned." This is true in the case of repulsion, whereas in the case of coupling, the cross-overs will practically always be heterozygous for one of the genes concerned; as the only example of linkage given in the book is a case of coupling, this may lead to confusion. A confusing typographical error occurs on page 116, line 1, where "a sexual" should read "asexual." Finally, the discussion about "pure lines in naturally cross-pollinated plants" on page 122 might be somewhat clearer.

These criticisms, however, concern only details which can be easily put right, and the book as a whole will certainly prove of value to horticulturalists, gardeners and amateurs.

F. R. SIMPSON.

Eskelund, Viggo. *Structural Variations of the Human Iris and their Heredity, with special reference to the Frontal Boundary Layer.* Copenhagen and London, 1938. Nyt Nordisk Forlag and H. K. Lewis & Co. Ltd. Pp. 243 with illustrations. Price 21s. net.

THE fœtal pupil is closed by the membrana pupillaris which is continuous with the frontal boundary layer of the iris. Later in embryonic life that membrane disappears, and its destruction extends to a variable degree on to the iris; a central ring of the iris therefore lacks the boundary layer, and the peripheral parts of the layer may undergo a more or less marked diffuse atrophy by the formation of irregular scratches and crypts. The persisting parts of the layer may be clear or more or less opaque. The iris as a whole may show a variable number of concentric furrows of contraction. These variable structures, together with the pigmentation of the iris and the size of the cornea, have been investigated by the author by means of enlarged photographs in ninety-three unrelated persons, fifty-eight of their children and five pairs of twins. There are indications that most of these features are to some extent influenced genotypically. Their mode of inheritance has not yet been established.

Of the 243 pages of the book, twelve are occupied by summaries in Danish, German and French, fifty-five by enlarged—mostly good—photographs of eyes, and eighty-three by very detailed case reports. As practically all the relevant information about these cases is already contained in a profusion of tables in the text, the publication of these reports might as well have been omitted. This would have enabled the publishers to keep the price of the work in better relation to the scientific information it contains. This is not intended to convey the impression that I value the author's endeavours lowly; just the reverse—but one guinea is a lot of money!

H. GRÜNEBERG.

Bücklers, Max. *Die Erblichen Hornhautdystrophien. Dystrophiæ corneæ hereditariæ.* Stuttgart, 1938. Ferdinand Enke. Pp. 143. Price R.M. 6.80.

THIS work is confined to the pure corneal dystrophies, of which the author recognizes three: dystrophia corneæ granulosa, maculosa, and reticulata. He gives a historical summary of each followed by a clear clinical description illustrated by figures showing the appearances by direct and reflected light and from the lateral aspect. He discusses the mode of inheritance, differential diagnosis and treatment, and gives a full bibliography. He considers that the dystrophia maculosa is recessive, while the other two are dominant, and thus disagrees with Waardenburg, who says that dystrophia maculosa is dominant